

Assignment 2 Heuristic Search Report

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1. Results with Heuristics for the Eight Puzzle

Puzzle	Heuristic	Solved	Soln Edges	Soln Cost	Expanded	Max OPEN
A	Non (UCS)	Y	7	7	166	101
A	Hamming	Y	7	7	7	6
A	Manhattan	Y	7	7	7	6
B	Non (UCS)	Y	12	12	1490	898
B	Hamming	Y	12	12	95	72
B	Manhattan	Y	12	12	34	25
C	Non (UCS)	Y	14	14	4070	2290
C	Hamming	Y	14	14	195	127
C	Manhattan	Y	14	14	56	39
D	Non (UCS)	Y	16	16	7982	4700
D	Hamming	Y	16	16	593	368
D	Manhattan	Y	16	16	155	98

Puzzle A: [3,0,1,6,4,2,7,8,5]

Puzzle B: [3,1,2,6,8,7,5,4,0]

Puzzle C: [4,5,0,1,2,8,3,7,6]

Puzzle D: [0,8,2,1,7,4,3,6,5]

2. (Optional) Evaluating Our Custom Heuristics

- For all four puzzles, all the custom heuristics made solving much faster than UCS. And Manhattan method
- runs faster and saves more space in the open list than Hamming method.